

HABITAT TECHNOLOGIES

MAR 18 2013

March 18, 2013

Mr. James Kerby, Director of Architectural Design and Land Development
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MAR 18 2013

RE: UPDATE ASSESSMENT

**Critical Areas Assessment and Habitat Management Plan
Parcels 0420254702 and 0420254027
Foster Family Property, City of Sumner**

Dear Mr. Kerby,

Pursuant to our discussions Habitat Technologies has completed an onsite assessment to update the findings outlined in the *Critical Habitats Assessment and Associated Habitat Management Plan* prepared for Foster Family Property (Parcels 0420254702 and 0420254027) dated November 25, 2008 (Appendix A). This recent onsite assessment was undertaken to document whether or not site conditions had changed since 2008, and to evaluate the project site using presently adopted wetland delineation methodologies. The recent onsite assessment was completed following the methods and procedures defined in the *Corps of Engineers Wetland Delineation Manual* (1987 Manual) with the 2010 *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region* (2010 Supplement); the guidance provided for the *Washington State Wetlands Identification and Delineation Manual* (Wash Manual); and the City of Sumner Chapter 16.56.

PROJECT SITE DESCRIPTION

The project site was located in the City of Sumner, was approximately eight (8) acres in size, and composed of two (2) existing vacant parcels. The project site had undergone prior land use manipulations to include clearing, grading, the production and harvesting of agricultural crops, development of public and private roadways, and the development of adjacent properties. As documented in March 2013 the project site continued to be managed for agricultural crop production (Figure 1).

BACKGROUND INFORMATION

As initially identified in the 2008 assessment and as identified again during the recent 2013 assessment existing federal, state, and local resource mapping does not identify any wetlands or drainage corridors within or immediately adjacent to the project site.

wetlands, streams, fisheries, wildlife – mitigation and permitting solutions 08142

P.O. Box 1088, Puyallup, Washington 98371

voice 253-845-5119 fax 253-841-1942 habitattech@qwestoffice.net

These mapping resources did identify the Puyallup River offsite to the south of the project site. The Puyallup River is identified as a Type S Water (Shoreline of the State), a City of Sumner Type 1 Stream, and as providing habitats for a variety of fish species. Identified fish species included Chinook salmon (*Oncorhynchus tshawytscha*), coho salmon (*Oncorhynchus kisutch*), chum salmon (*Oncorhynchus keta*), pink salmon (*Oncorhynchus gorbuscha*), sockeye salmon (*Oncorhynchus nerka*), steelhead/rainbow trout (*Oncorhynchus mykiss*), cutthroat trout (*Oncorhynchus clarkii*), native char (*Salvelinus spp.*), mountain whitefish (*Prosopium spp.*); and a number of other non-salmonid fish species.

The soil mapping inventory completed by the Soils Conservation Service identified the soil in the northern portion of the project as sultan silt loam (248). The Sultan soil series is defined as moderately well drained, as formed in alluvium, and as not listed as "hydric." The central portion of the project site is mapped as Briscot loam (6A). The Briscot soil series is defined as somewhat poorly drained, as formed in alluvium under hardwoods and conifers, and as listed as "hydric." The southern portion of the project site is defined as Puyallup fine sandy loam (31A). The Puyallup soil series is defined as well drained, as formed in sandy mixed alluvium, and as not listed as "hydric."

ONSITE ANALYSIS

Criteria for Wetland, Stream, and Habitat Identification

Wetlands are transitional areas between aquatic and upland habitats. In general terms, wetlands are lands where the extent and duration of saturation with water is the primary factor determining the nature of soil development and the types of plant and animal communities living in the soil and on its surface (Cowardin, et al., 1979). Wetlands are generally defined within land use regulations as "areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions" (1987 Manual).

Wetlands exhibit three essential characteristics, all of which must be present for an area to meet the established criteria within the 1987 Manual with 2010 Supplement. These essential characteristics are:

1. **Hydrophytic Vegetation:** A predominance of plants that are typically adapted for life in saturated soils.
2. **Hydric Soil:** A soil that is saturated, flooded, or ponded long enough during the growing season to develop anaerobic conditions in the upper horizons.
3. **Wetland Hydrology:** Permanent or periodic inundation, or soil saturation to the surface, at least seasonally.

A stream is generally defined as naturally occurring body of periodic or continuously flowing water where: (i) the mean annual flow is greater than 20 cubic feet per second

and (ii) the water is contained within a channel. "Channel" is defined as an open conduit for water either naturally or artificially created, but does not include artificially created irrigation, return flow, or stock watering channels.

Fish and wildlife habitat areas are those areas identified by the City of Sumner as being of critical importance to maintenance of fish, wildlife, or plant species, including:

- A. Areas with which federally or state-listed endangered, threatened, or sensitive species of fish, wildlife, or plants have a primary association;
- B. Areas with habitats and species of local importance, including the following:
 - 1. Areas with which state-listed monitor or candidate species or federally listed candidate species have a primary association, and which, if altered, may reduce the likelihood that the species will maintain and reproduce over the long term;
 - 2. Special habitat areas which may provide specific habitats which certain animals and plants require such as breeding habitat, winter range, and movement corridors;
- C. Naturally occurring ponds under 20 acres and their submerged aquatic beds that provide fish and wildlife habitat;
- D. Waters of the state, including all water bodies classified by the Washington State Department of Natural Resources water typing classification system as detailed in WAC 222-16-031;
- E. Lakes, ponds, streams, and rivers planted with game fish by a governmental or tribal entity;
- F. State natural area preserves and natural resource conservation areas.

2013 Assessment

The project site was accessed via River Grove Drive East which generally formed the northern boundary of the project site. Existing single-family homes were located adjacent to the western boundary and the northeastern portion of the project site. The remainder of the eastern project site was bound by SR 162 East. A public roadway serving several single-family homes was located adjacent to the southern boundary. The project site was separated from the Puyallup River by a constructed levy system, a number of existing single family homesites, and a developed public roadway (78th Street Court East).

- **Soils**

The general location of representative sample plots established as a part of the 2008 assessment were re-evaluated during March 2013. As documented at these representative sample plots the upper soil profile had been managed and altered by prior and ongoing agricultural actions. The soil exhibited a texture of the surface soil ranging between loose loam, sandy loam; and fine sandy loam. Surface soil coloration ranged from dark brown (10YR 3/3) to very dark grayish brown (10YR 3/2). The subsoil exhibited a soil texture that ranged from sandy loam to fine sandy loam and a coloration

ranging from dark brown (10YR 3/3) to dark grayish brown (10YR 4/2). The majority of the onsite soil appeared to drain moderately well to well and exhibited few redoximorphic features. None of the sample plots exhibited field characteristics typically associated with hydric soils as established within the 2010 Supplement. The 2013 field data are provided in Appendix B.

- **Hydrology**

Onsite hydrology appeared to be the result of seasonal stormwater runoff from onsite and adjacent properties, topography, and soil characteristics. As defined in 2008 and again in 2013 the project site appeared to drain moderately well to well and did not exhibit field indicators typically associated with wetland hydrology or the retention of seasonal stormwater runoff.

- **Vegetation**

As defined in 2008 and again in 2013 the project site exhibited a single plant community which had been altered and managed by prior and ongoing land use actions. Observed species included a scattering of dandelion (*Taraxacum officinale*), daisy (*Bellis perennis*), clover (*Trifolium* spp.), hairy cats ear (*Hypochaeris radicata*), sheep sorrel (*Rumex acetosella*), geranium (*Geranium* spp.), smooth cats ear (*Hypochaeris glabra*), bedstraw (*Galium* spp.), Canadian thistle (*Cirsium arvensis*), bull thistle (*Cirsium vulgare*), reed canarygrass (*Phalaris arundinacea*), orchardgrass (*Dactylis glomerata*), fescue (*Festuca* spp.), velvet grass (*Holcus lanatus*), bluegrass (*Poa* spp.), toad rush (*Juncus bufonius*), field mint (*Mentha arvensis*), and Queen Anne's Lace (*Daucus carota*). This plant association had become established following recent agricultural actions and was identified as non-hydrophytic in character (i.e. typical of uplands).

- **Fish and Wildlife**

As defined in 2008 and again in 2013 the project site was dominated by an open agricultural field. It is unlikely based upon the existing site conditions, coupled with adjacent land uses, that species which require large areas of undisturbed habitat would exist onsite. Those species that would utilize the habitats associated with the project site would not differ than those species identified in the 2008 report. The project site did not provide habitats for spawning and rearing amphibians and did not provide habitats for fish species.

The Puyallup River Corridor offsite to the south of the project site is documented to provide a wide range of habitats for aquatic and terrestrial species. These species include a variety of fish, waterfowl, shorebirds, and raptors. However, the majority of these species would not be expected to utilize the habitats provided by the project site.

Two listed federally threatened species – Chinook salmon and native char – are documented to use the habitats within the Puyallup River. However, the project site did not provide critical habitats for these species.

WETLAND, DRAINAGE CORRIDOR, AND HABITATS DETERMINATION

As identified during the 2008 assessment and as re-defined during the March 2013 assessment no portion of the project site exhibit all three of the established wetland criteria. In addition, no portion of the project site was identified to exhibits characteristics of a stream or City of Sumner listed “fish and wildlife habitat areas” (see Photos).

These assessments did identify the Puyallup River offsite to the south of the project site. This river corridor was separated from the project site by a constructed levy system, a number of existing single family homesites, and a developed public roadway (78th Street Court East).

STREAM	CLASSIFICATION (USFWS) (onsite)	WDNR STREAM CLASS	CITY OF SUMNER TYPE	CITY OF SUMNER BUFFER WIDTH
Puyallup River	R2SB	State Shoreline	1	100feet*

* Shoreline Residential Environment

Puyallup River: The Puyallup River was identified offsite to the south of the project site within a controlled levy system. Surface flow within the river was generally to the west within the vicinity of the project site. The Puyallup River is documented to provide habitats for Chinook salmon, coho salmon, chum salmon, pink salmon, sockeye salmon, steelhead/rainbow trout, cutthroat trout, native char, and Mountain whitefish; as well as a number of other non-salmonid fish species. The Puyallup River is identified by the City of Sumner as a Type 1 Stream and by WDNR as a Shoreline of the State.

REGULATORY CONSIDERATION

The proposed alteration of lands defined by various federal, state, and local authority rules and regulations as “wetlands,” “streams,” and “critical habitat areas” raises environmental concerns. These concerns center on the development's potential impacts to the structure, functions, values, and sizes of these areas.

As defined by onsite assessment there are no identified wetlands, streams, or fish and wildlife habitat areas within or immediately adjacent to the Foster Family Property. However, the Puyallup River is located within a constructed corridor to the south of the Foster Family Property.

City of Sumner - Chapter 16.56 – Wildlife Habitat Area

As outlined by the City of Sumner the purpose of Chapter 16.56 is to regulated development and the use of land to preserve and protect areas of critical and endangered fish and wildlife habitat; and to conform with the Washington State Growth Management Act (16.56.030).

The City of Sumner has identified that where a habitat assessment demonstrates to the satisfaction of the City that fish and wildlife habitat areas are not within 1,000 feet of the project site, then the development can proceed without further requirements for special fisheries or wildlife studies pursuant to this chapter. Otherwise, a *Habitat Management Plan* (16.56.080) shall be submitted to the City of Sumner. The purpose of the *Habitat Management Plan* is to provide for the implementation, monitoring, and maintenance of permanent mitigation and restoration measures for fish and wildlife habitat.

- **Habitat Management Plan Discussion**

As identified by onsite assessments in 2008 and March 2013 the project site has been managed and manipulated for the production of agricultural crops for several decades. The project site is routinely plowed/tilled, seeded, and harvested as a part of these ongoing agricultural actions. The project site does not exhibit any areas defined as “wetland,” “stream,” or “critical fish and wildlife habitats.” The project site is also bounded by existing residential developments and public roadways.

The Puyallup River is located more than 150 feet south of the project site. While this river corridor provides a variety of habitats for aquatic and terrestrial species these habitats are separated from the project site by existing residential developments and roadways. In addition, the Puyallup River is confined within a constructed level system and as a result of these developments there is no connective corridor between the project site and the Puyallup River.

The following outline was presented within the 2008 document and continues to be relevant following the March 2013 assessment.

As defined by the City of Sumner the *Habitat Management Plan* shall contain at a minimum:

1. A discussion of the project's effects on fish and wildlife habitat;

Discussion: The project site has been managed and manipulated for the production of agricultural crops for several decades. As such, the project site provides only limited habitats for a limited number of wildlife species. In particular, the project site does not provide critical habitats for federally or state-listed endangered, threatened, or sensitive species of fish, wildlife, or plants. As such, the development of the project site would not exhibit a significant impact on fish and wildlife habitat.

2. A discussion of any federal, state, or local special management recommendations which have been developed for species or habitats located on the site;

Discussion: There are presently no federal, state, or local management recommendations for the types of habitats provided within the project site.

The City of Sumner has identified a special management recommendation for the Puyallup River within the City's Shoreline Management Regulations (16.14.040). These regulations require that permanent structures, storage, and hard surfaces shall be set back a minimum of 100 feet from the floodway or ordinary high water mark (whichever is further landward) within the "Shoreline Residential Environment."

3. A discussion of measures to preserve existing habitats and restore habitats which were degraded prior to the proposed land use activity.

Discussion: Since the development of the project site would not have a significant impact on fish and wildlife habitat no measures to preserve existing habitats or restored habitats appear required to meet the intent of Chapter 16.56.

4. A discussion of proposed measures which mitigate the impacts of the project;

Discussion: Since the development of the project site would not exhibit a significant impact on fish and wildlife habitat no measures to mitigate the impacts of this project appear required.

5. An evaluation of the effectiveness of the proposed mitigation and restoration measures;

Discussion: Since no measures to mitigate the impacts of this project appear required, no associated evaluation appears required.

6. A discussion of ongoing management practices which will protect fish and wildlife habitat after the project site has been fully developed, including proposed monitoring and maintenance programs;

Discussion: Since no measures to mitigate the impacts of this project appear required, no associated monitoring or maintenance appears required.

7. An assessment of habitat recommendations proposed by resource agencies and their applicability to the proposal; and

Discussion: Since no measures to mitigate the impacts of this project appear required, no further assessment appears required.

8. Any additional information necessary to determine the impacts of a proposal and mitigation of the impacts.

Discussion: No additional information appears necessary to determine the impacts of the development of this project site on existing onsite habitats. The project site is located more than 150 feet away from the Puyallup River and separated from the Puyallup River Corridor by existing residential and paved roadway development.

SELECTED DEVELOPMENT ACTION

The Selected Development Action for the project site focuses on the development of a residential community consistent with the City of Sumner Comprehensive Plan, the City of Sumner Shoreline Regulations, and local zoning. The development of this residential community would not require an adverse impact to wetlands, streams, or critical fish and wildlife habitats.

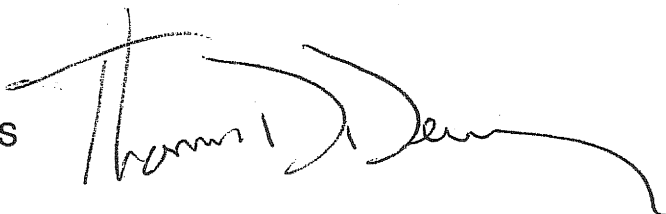
The project site has been managed and manipulated for the production of agricultural crops for several decades. As such, the project site provides only limited habitats for a limited number of wildlife species. In particular, the project site does not provide critical habitats for federally or state-listed endangered, threatened, or sensitive species of fish, wildlife, or plants.

STANDARD OF CARE

This document has been completed by Habitat Technologies for use by Benjamin-Ryan Communities. Prior to extensive site planning, the findings provided within this document should be reviewed verified by City of Sumner and potentially other resource and permitting agencies. Habitat Technologies has provided professional services that are in accordance with the degree of care and skill generally accepted in the nature of the work accomplished. No other warranties are expressed or implied. Habitat Technologies is not responsible for design costs incurred before this document is approved by the appropriate resource and permitting agencies.

Bryan W. Peck
Wetland Biologist

Thomas D. Deming, PWS
Habitat Technologies



FIGURES



The map features are approximate and are intended only to provide an indication of said feature. Additional areas that have not been mapped may be present. This is not a survey. The orthophotos and other data may not align. Pierce County and Habitat Technologies assume no liability for variations ascertained by actual survey. All data is expressly provided AS IS and WITH ALL FAULTS. Pierce County and Habitat Technologies make no warranty of fitness for a particular purpose.

Map Legend

Highlighted Tax Parcels

- ☐ Tax Parcels
- Drainage - Main Lines
- Drainage - Open Channels

Roads

- Interstate
- Limited Access State Routes
- Other State Routes
- Ramps
- Major Arterial
- Collector
- Local Access
- County - 2011 - Ortho

Figure 1 Site Vicinity

Habitat Technologies

0 160 320 ft.



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REFERENCE LIST

Adamus, P.R., E.J. Clairain Jr., R.D. Smith, and R.E. Young. 1987. Wetland Evaluation Technique (WET); Volume II: Methodology, Operational Draft Technical Report Y-87, U.S. Army Engineer Waterways Experiment Station, Vicksburg, Mississippi.

Cowardin, L.M., V. Carter, F.C. Golet, and E.T. LaRoe. 1979. Classification of Wetlands and Deepwater Habitats of the United States. Office of Biological Services, U.S. Fish and Wildlife Service, U.S. Department of the Interior, FWS/OBS-79/31.

Environmental Laboratory. 1987. "Corps of Engineers Wetlands Delineation Manual," Technical Report Y-87-1, US Army Engineer Waterways Experiment Station, Vicksburg, Miss.

Federal Interagency Committee for Wetland Delineation. 1989. Federal Manual for Identifying and Delineating Jurisdictional Wetlands. U.S. Army Corps of Engineers, U.S. Environmental Protection Agency, U.S. Fish and Wildlife Service, and U.S.D.A. Soil Conservation Service, Washington, D.C. Cooperative technical publication. 76 pp. plus appendices.

Hitchcock, C.L., A. Cronquist. 1977. Flora of the Pacific Northwest. University of Washington Press. Seattle, Washington.

Hruby, T. 2004. Washington State Wetland Rating System for Western Washington. Revised, Washington State Department of Ecology Publication #04-06-025.

Reppert, R.T., W. Sigleo, E. Stakhiv, L. Messman, and C. Meyers. 1979. Wetland Values - Concepts and Methods for Wetland Evaluation. Research Report 79-R1, U.S. Army Corps of Engineers, Institute for Water Resources, Fort Belvoir, Virginia.

U.S. Army Corps of Engineers. 2010. Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region, ed. J.S. Wakeley, R.W. Lichvar, and C.V. Noble. ERDC/EL TR-08-13.

U.S. Department of Agriculture, Soils Conservation Service. Soils Survey of Pierce County Area Washington, February 1979.

Washington State Department of Ecology. 1997. Washington State Wetlands Identification and Delineation Manual. Publication Number 96-94

Washington State Department of Fisheries, Catalog of Washington Streams and Salmon Utilization, Volume 1., 1975.

**APPENDIX A – CRITICAL HABITATS ASSESSMENT AND
ASSOCIATED HABITAT MANAGEMENT PLAN, November 25, 2008**

HABITAT TECHNOLOGIES

CRITICAL HABITATS ASSESSMENT AND ASSOCIATED HABITAT MANAGEMENT PLAN

**PARCELS 0420254027 and 0420254702
CITY OF SUMNER, PIERCE COUNTY, WASHINGTON**

prepared for

**Larson and Associates
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prepared by

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November 25, 2008

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INTRODUCTION

This report details the culmination of activities and onsite evaluations undertaken to complete an assessment of onsite and adjacent critical habitats as an element for the preparation of a Habitat Management Plan associated with the planning of the approximately 8-acre project site (parcels 0420254027 and 0420254702) located generally to the south of River Grove Drive and west of SR 162 East in the City of Sumner, Washington (part of Section 25, Township 20 North, Range 4 East, W.M.) (Figure 1). The evaluation of onsite and adjacent critical habitats is a vital element in the planning and selection of a site development action. The goal of this approach is to ensure that planned site development does not result in adverse environmental impacts.

DOCUMENT PURPOSE

This purpose of this document is to present the results of an onsite assessment of critical habitats within and immediately adjacent to the project site following the methods and procedures defined in the *Corps of Engineers Wetland Delineation Manual* (1987 Manual), the *Washington State Wetlands Identification and Delineation Manual* (Wash Manual), and City of Sumner Title 16. Drainage corridors were also assessed and identified in accordance with the criteria established by the City of Sumner and the State of Washington Department of Natural Resources (WDNR) Forest Practice Rules (WAC 222-16-030). This document was designed to accommodate site planning and potential regulatory actions. This document is suitable for submittal to federal, state, and local authorities for wetland and drainage corridor boundary verification, critical habitats assessment, and permitting actions.

PROJECT SITE DESCRIPTION

The project site was located in the City of Sumner, was approximately eight (8) acres in size, and composed of two (2) existing vacant parcels. The project site had undergone prior land use manipulations to include clearing, grading, production of agricultural crops, development of public and private roadways, and the development of adjacent properties. The majority of the project site appeared to have been managed for the production of agricultural crops for several decades.

Legal Descriptions:

Parcel 0420254027: Section 25 Township 20 Range 04 Quarter 44 : COM ON E LI LOT 6 IN SEC 564.60 FT S OF S LI OF A H WOOLERY DLC TO POB TH S ALG E LI LOT 6 517.15 FT TO M/L OF PUYALLUP RIVER TH N 82 DEG 08 MIN W 544.80 FT TH N 441.95 FT TH E 540 FT TO POB EXC CO RD DED FEE.

Parcel 0420254702: Section 25 Township 20 Range 04 Quarter 44 : CURRENT USE RCW 84.34 AS AMEND AGRI 1978 1.94 AC AFN 2804888 BEG 242 FT S & 254 FT W

OF INTER OF E LI OF SEC & S LI OF A. H. WOOLERY DLC TH S 322.6 FT TH W 286 FT TH N 322.6 FT TH E TO BEG EXC THAT POR DEEDED.

Directions to Project Site: From SR 410 E eastbound exit to SR 162 E south bound. Continue south on SR 162 East southbound to River Grove Drive East. Turn west onto River Grove Drive East and continue to the first vacant parcel to the south of River Grove Drive East (fourth parcel off SR 162 East).

BACKGROUND INFORMATION

NATIONAL WETLAND INVENTORY

The National Wetland Inventory (NWI) mapping completed by the U.S. Fish and Wildlife Service was reviewed as a part of this assessment (Figure 2). This mapping resource did not identify any wetlands or drainage corridors within or adjacent to the project site. This mapping resource did identify the Puyallup River offsite to the south of the project site. The Puyallup River was identified as riverine, lower perennial, unconsolidated bottom, permanently flooded (R2UBH); and riverine, lower perennial, unconsolidated shore, seasonally flooded (R2USC).

STATE OF WASHINGTON PRIORITY HABITATS AND SPECIES

The State of Washington Priority Habitats and Species (PHS) Mapping was reviewed as a part of this assessment (Figure 3). This mapping resource did not identify any priority habitats or species within of immediately adjacent to the project site.

STATE OF WASHINGTON DEPARTMENT OF FISH AND WILDLIFE

The State of Washington Department of Fish and Wildlife mapping was reviewed as a part of this assessment (Figure 4). This mapping resource did not identify any streams within the project site. This mapping resource did identify the Puyallup River offsite to the south of the project site. The Puyallup River is noted to provide habitats for Chinook salmon (*Oncorhynchus tshawytscha*), coho salmon (*Oncorhynchus kisutch*), chum salmon (*Oncorhynchus keta*), pink salmon (*Oncorhynchus gorbuscha*), sockeye salmon (*Oncorhynchus nerka*), steelhead/rainbow trout (*Oncorhynchus mykiss*), cutthroat trout (*Oncorhynchus clarkii*), native char (*Salvelinus spp.*), and mountain whitefish (*Prosopium spp.*); as well as a number of other non-salmonid fish species.

STATE OF WASHINGTON DEPARTMENT OF NATURAL RESOURCES

The State of Washington Department of Natural Resources mapping was reviewed as a part of this assessment (Figure 5). This mapping resource did not identify any streams

within the project site. This mapping resource did identify the Puyallup River offsite to the south of the project site. The Puyallup River was identified as a WDNR Type S (shoreline) Water.

CITY OF SUMNER FISH AND WILDLIFE HABITAT INVENTORY

The City of Sumner Fish and Wildlife Habitat Inventory Mapping was reviewed as a part of this assessment. This mapping resource did not identify any fish and wildlife habitat areas within the project site. This mapping resource did identify the Puyallup River offsite to the south as noted in the mapping resources above. The Puyallup River was identified as a City of Sumner Type 1 Stream (Figure 6).

SOILS MAPPING

The soil mapping inventory completed by the Soils Conservation Service was reviewed as a part of this assessment (Figure 7). This mapping resource identified the soil in the northern portion of the project as sultan silt loam (248). The Sultan soil series is defined as moderately well drained, as formed in alluvium, and as not listed as "hydric."

This mapping resource identified the soils within the central portion of the project site as Briscot loam (6A). The Briscot soil series is defined as somewhat poorly drained, as formed in alluvium under hardwoods and conifers, and as listed as "hydric."

This mapping resource identified the soils within the southern portion of the project site as Puyallup fine sandy loam (31A). The Puyallup soil series is defined as well drained, as formed in sandy mixed alluvium, and as not listed as "hydric."

WASHINGTON STATE NATURAL HERITAGE PROGRAM

The Washington State Natural Heritage Program was reviewed as a part of this assessment. This resource did not identify any high quality, undisturbed wetland or a wetland that supports state Threatened, Endangered, or Sensitive plant species within the Section/Township/Range of the project site.

ONSITE ANALYSIS

CRITERIA FOR WETLAND, STREAM, AND HABITAT IDENTIFICATION

Wetlands are transitional areas between aquatic and upland habitats. In general terms, wetlands are lands where the extent and duration of saturation with water is the primary factor determining the nature of soil development and the types of plant and animal communities living in the soil and on its surface (Cowardin, et al., 1979). Wetlands are generally defined within land use regulations as "areas that are inundated or saturated by

surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions" (1987 Manual).

Wetlands exhibit three essential characteristics, all of which must be present for an area to meet the established criteria within the Wash. Manual and the 1987 Manual. These essential characteristics are:

1. **Hydrophytic Vegetation:** A predominance of plants that are typically adapted for life in saturated soils.
2. **Hydric Soil:** A soil that is saturated, flooded, or ponded long enough during the growing season to develop anaerobic conditions in the upper horizons.
3. **Wetland Hydrology:** Permanent or periodic inundation, or soil saturation to the surface, at least seasonally.

A stream is generally defined as naturally occurring body of periodic or continuously flowing water where: (i) the mean annual flow is greater than 20 cubic feet per second and (ii) the water is contained within a channel. "Channel" is defined as an open conduit for water either naturally or artificially created, but does not include artificially created irrigation, return flow, or stock watering channels.

Fish and wildlife habitat areas are those areas identified as being of critical importance to maintenance of fish, wildlife, or plant species, including:

- A. Areas with which federally or state-listed endangered, threatened, or sensitive species of fish, wildlife, or plants have a primary association;
- B. Areas with habitats and species of local importance, including the following:
 1. Areas with which state-listed monitor or candidate species or federally listed candidate species have a primary association, and which, if altered, may reduce the likelihood that the species will maintain and reproduce over the long term;
 2. Special habitat areas which may provide specific habitats which certain animals and plants require such as breeding habitat, winter range, and movement corridors;
- C. Naturally occurring ponds under 20 acres and their submerged aquatic beds that provide fish and wildlife habitat;
- D. Waters of the state, including all water bodies classified by the Washington State Department of Natural Resources water typing classification system as detailed in WAC 222-16-031;
- E. Lakes, ponds, streams, and rivers planted with game fish by a governmental or tribal entity;
- F. State natural area preserves and natural resource conservation areas.

STUDY METHODS

Habitat Technologies completed a series of site visits during the November 2008. This series of assessments allowed for a formal assessment of potential critical habitats within and adjacent to the project site. In addition, Habitat Technologies has completed a variety of similar assessments for parcels within the general area of the project site.

FIELD OBSERVATION

The project site was accessed via River Grove Drive East which generally formed the northern boundary of the project site. Existing single-family homes were located adjacent western boundary of the project site and the northeastern portion of the project site. The remainder of the eastern project site was bound by SR 162 East. A private access road serving several single-family homes was located adjacent to the southern boundary. The majority of the project site had been utilized for the production of agricultural crops for several decades.

The project site was separated from the Puyallup River by a controlled levy system, a number of existing single family homesites, and a developed public roadway (78th Street Court East).

Soils

As documented at representative sample plots throughout the project site the soil had been managed and altered by prior and ongoing agricultural actions. The soil exhibited a texture of the surface soil ranging between loose loam, sandy loam; and fine sandy loam. Surface soil coloration ranged from dark brown (10YR 3/3) to very dark grayish brown (10YR 3/2). The subsoil exhibited a soil texture that ranged from sandy loam to fine sandy loam and a coloration ranging from dark brown (10YR 3/3) to dark grayish brown (10YR 4/2). The majority of the onsite soil appeared to drain moderately well to well and exhibited few redoximorphic features. None of the sample plots exhibited field characteristics typically associated with hydric soils. Field data are provided in Appendix A.

Hydrology

Onsite hydrology appeared to be the result of seasonal stormwater runoff from onsite and adjacent properties, topography, and soil characteristics. The project site appeared to drain moderately well to well and did not exhibit field indicators typically associated with wetland hydrology or the retention of seasonal stormwater runoff.

Vegetation

The project site generally exhibited a single plant community which had been altered and managed by prior land use actions. These prior land use actions had included clearing, grading, plowing, and the production of agricultural crops. Observed species included a scattering of dandelion (*Taraxacum officinale*), daisy (*Bellis perennis*), clover

(*Trifolium* spp.), hairy cats ear (*Hypochaeris radicata*), horsetail (*Equisetum arvense*), sheep sorrel (*Rumex acetosella*), geranium (*Geranium* spp.), smooth cats ear (*Hypochaeris glabra*), bedstraw (*Galium* spp.), reed canarygrass (*Phalaris arundinacea*), orchardgrass (*Dactylis glomerata*), fescue (*Festuca* spp.), velvet grass (*Holcus lanatus*), and bluegrass (*Poa* spp.). This plant association had become established following prior agricultural actions and was identified as non-hydrophytic in character (i.e. typical of uplands).

WETLAND AND DRAINAGE CORRIDOR DETERMINATION

Wetland determination was based on sample plots which contained hydrophytic vegetation, hydric soils, and wetland hydrology in accordance with the 1987 Manual and the Wash. Manual. Based on these methods **no** area within the project site was identified to exhibit all three of the established wetland criteria. **No** area within the project site was identified to exhibit characteristics of a stream. **One (1)** area within the vicinity of the project site was identified to exhibit characteristics of a City of Sumner Type 1 Stream.

STREAM	CLASSIFICATION (USFWS) (onsite)	WDNR STREAM CLASS	CITY OF SUMNER TYPE	BUFFER WIDTH
Puyallup River	R2SB	State Shoreline	1	100et*

* Shoreline Residential Environment

Puyallup River: The Puyallup River Corridor was identified offsite to the south of the project site within a controlled levy system. Surface flow within the river was generally to the west within the vicinity of the project site. As noted within the mapping resources above the Puyallup River is documented to provide habitats for Chinook salmon, coho salmon, chum salmon, pink salmon, sockeye salmon, steelhead/rainbow trout, cutthroat trout, native char, and Mountain whitefish; as well as a number of other non-salmonid fish species. The Puyallup was identified by the City of Sumner as a Type 1 Stream (Shoreline of the State).

WILDLIFE OBSERVATIONS

The onsite assessment of wildlife species presence was also completed as a part of the onsite assessment of wetland and drainage corridor characteristics. It is unlikely based upon the existing site conditions, coupled with adjacent land uses, that species which require large areas of undisturbed habitat would exist onsite. Based on the plant communities, direct observations, and observations within adjacent parcels avian

species that were observed - or that would be expected within the project site - included red tailed hawk (*Buteo jamaicensis*), merlin (*Falco columbarius*), rock dove (*Columbia livia*), mourning dove (*Zenaida macroura*), tree swallow (*Tachycineta bicolor*), violet green swallow (*Tachycineta thalassina*), barn swallow (*Hirundo rustica*), song sparrow (*Melospiza melodia*), common raven (*Corvus corax*), American crow (*Corvus brachyrhynchos*), American robin (*Turdus migratorius*), dark eyed junco (*Junco hyemalis*), Steller's jay (*Cyanocitta stelleri*), starling (*Sturnus vulgaris*), American goldfinch (*Carduelis tristis*), black capped chickadee (*Parus atricapillus*), house sparrow (*Passer domesticus*), rufous hummingbird (*Selasphorus rufus*), Northern flicker (*Colaptes auratus*), killdeer (*Charadrius vociferus*), common mallard (*Anas platyrhynchos*), American widgeon (*Anas americana*), and Canadian goose (*Branta canadensis*). The majority of these avian species would be expected to feed throughout the project site. Many of these smaller species would also be expected to nest within the habitats provided by the adjacent properties.

Mammal species observed (directly or indirectly) - or expected within the project site - included coyote (*Canis latrans*), opossum (*Didelphis virginianus*), eastern cottontail (*Sylvilagus floridanus*), deer mouse (*Peromyscus maniculatus*), shrew (*Sorex* spp.), vole (*Microtus* spp.), Townsend mole (*Scapanus townsendii*), Norway rat (*Rattus norvegicus*), and bats (*Myotis* spp.).

The project site would also provide habitats for Pacific treefrog (*Hyla regilla*) and common garter snake (*Thamnophis sirtalis*). However, spawning and rearing opportunities for amphibians were extremely limited.

The project site was not identified to provide habitats for fish species.

The Puyallup River Corridor offsite to the south of the project site provides a wide range of habitats for aquatic and terrestrial species. These species include a variety of fish, waterfowl, shorebirds, and raptors. However, the majority of these species would not be expected to utilize the habitats provided by the project site.

STATE PRIORITY SPECIES

Game Species: A few species identified by the State of Washington as "Priority Species" were observed onsite or potentially may utilize the project site. The majority of these species are identified as "game species" and are regulated by the State of Washington through recreational hunting bag limits, harvest seasons, and harvest area restrictions. These species include mourning dove, common mallard, American widgeon, and Canada goose.

State Candidate: State Candidate species are presently under review by the State of Washington Department of Fish and Wildlife (WDFW) for possible listing as endangered, threatened, or sensitive. A single State Candidate species – merlin – may be present within the project site.

State Monitored: State Monitored species are native to Washington but require habitat that has limited availability, are indicators of environmental quality, require further assessment, have unresolved taxonomy, may be competing with other species of concern, or have significant popular appeal. A few State Monitored species may be present within the vicinity of the project site - great blue heron, green heron, osprey, – may potentially utilize the Puyallup River Corridor for feeding. No nesting areas were observed onsite or within the adjacent vicinity for these species.

State Threatened: State Threatened species means any wildlife species native to the state of Washington that is likely to become an endangered species within the foreseeable future throughout a significant portion of its range within the state without cooperative management or removal of threats. The project site did not provide critical habitats for State Threatened species. However, a State Threatened species - bald eagle (*Haliaeetus leucocephalus*), has been documented along the Puyallup River, the White River, and Lake Tapps. As such, this species may occasionally overfly the area of the project site.

FEDERALLY LISTED SPECIES

A single, recently de-listed threatened species – bald eagle (*Haliaeetus leucocephalus*) – has been documented as feeding and nesting along the Puyallup River, the White River, and Lake Tapps. As such, this species may occasionally overfly the area of the project site. However, the project site did not provide critical habitats for this species.

Two listed federally threatened species – Chinook salmon and native char – are documented to use the habitats within the Puyallup River. However, the project site did not provide critical habitats for these species.

REGULATORY CONSIDERATION

The proposed alteration of lands defined by various federal, state, and local authority rules and regulations as "wetlands," "streams," and "critical habitat areas" raises environmental concerns that are generally addressed in the development review process. These concerns center on the development's potential adverse impacts to the structure, function, value, and size of these areas. Such adverse impacts may include: a reduction in wildlife habitats, reduced surface water quality, reduced water retention, a reduced ground water recharge rate, reduced plant species diversity, and the reduction in the function and value of other associated wetland and non-wetland characteristics.

CITY OF SUMNER - Chapter 16.56 - WILDLIFE HABITAT AREA

As outlined by the City of Sumner the purpose of Chapter 16.56 is to regulated development and the use of land to preserve and protect areas of critical and endangered fish and wildlife habitat; and to conform with the Washington State Growth Management Act (16.56.030). Fish and wildlife habitat areas are those areas identified as being of critical importance to maintenance of fish, wildlife, or plant species, including:

- A Areas with which federally or state-listed endangered, threatened, or sensitive species of fish, wildlife, or plants have a primary association;
- B Areas with habitats and species of local importance, including the following:
 - 1. Areas with which state-listed monitor or candidate species or federally listed candidate species have a primary association, and which, if altered, may reduce the likelihood that the species will maintain and reproduce over the long term;
 - 2. Special habitat areas which may provide specific habitats which certain animals and plants require such as breeding habitat, winter range, and movement corridors;
- C Naturally occurring ponds under 20 acres and their submerged aquatic beds that provide fish and wildlife habitat;
- D Waters of the state, including all water bodies classified by the Washington State Department of Natural Resources water typing classification system as detailed in WAC 222-16-031;
- E Lakes, ponds, streams, and rivers planted with game fish by a governmental or tribal entity;
- F State natural area preserves and natural resource conservation areas.

Conclusion: As defined by onsite assessment and a review of existing resource information the project site does not provide fish or wildlife habitat areas identified as being of critical importance to maintenance of fish, wildlife, or plant species. The project site has been modified and managed for the production of agricultural crops for several decades. In addition, the project site is surrounded by urban developments to include single family homesites, residential developments, and public roadways.

HABITAT MANAGEMENT PLANS (16.56.080)

The City of Sumner has identified that where a habitat assessment demonstrates to the satisfaction of the City that fish and wildlife habitat areas are not within 1,000 feet of the project site, then the development can proceed without further requirements for special fisheries or wildlife studies pursuant to this chapter. Otherwise, a habitat management plan shall be submitted. The purpose of the habitat management plan is to provide for the implementation, monitoring, and maintenance of permanent mitigation and restoration measures for fish and wildlife habitat. Prior to application for a permit the applicant may elect to waive

the habitat assessment and submit a habitat management plan if potential habitat is known to exist. The habitat management plan shall contain at a minimum:

1. A discussion of the project's effects on fish and wildlife habitat;
2. A discussion of any federal, state, or local special management recommendations which have been developed for species or habitats located on the site;
3. A discussion of measures to preserve existing habitats and restore habitats which were degraded prior to the proposed land use activity. Restoration plans shall include at a minimum the following:
 - a. Planting and soil specifications;
 - b. Success standards; and
 - c. Contingency plans;
4. A discussion of proposed measures which mitigate the impacts of the project;
5. An evaluation of the effectiveness of the proposed mitigation and restoration measures;
6. A discussion of ongoing management practices which will protect fish and wildlife habitat after the project site has been fully developed, including proposed monitoring and maintenance programs;
7. An assessment of habitat recommendations proposed by resource agencies and their applicability to the proposal; and
8. Any additional information necessary to determine the impacts of a proposal and mitigation of the impacts.

HABITAT MANAGEMENT PLAN DISCUSSION

As identified by onsite assessment the project site has been managed and manipulated for the production of agricultural crops for several decades. The entire project site is routinely plowed/tilled, seeded, and harvested as a part of these ongoing agricultural actions. The project site does not exhibit any areas defined as "wetland," "stream," or critical habitats. The project site is also bounded by existing residential developments and public roadways.

The Puyallup River is located more than 150 feet south of the project site. While this river corridor provides a variety of habitats for aquatic and terrestrial species these habitats are separated from the project site by existing residential developments and roadways. In addition, the Puyallup River is confined within a constructed level system

and as a result of these developments there is no connective corridor between the project site and the Puyallup River.

As defined by the City of Sumner the habitat management plan shall contain at a minimum:

1. A discussion of the project's effects on fish and wildlife habitat;

Discussion: The project site has been managed and manipulated for the production of agricultural crops for several decades. As such, the project site provides only limited habitats for a limited number of wildlife species. In particular, the project site does not provide critical habitats for federally or state-listed endangered, threatened, or sensitive species of fish, wildlife, or plants.

As such, the development of the project site would not exhibit a significant impact on fish and wildlife habitat.

2. A discussion of any federal, state, or local special management recommendations which have been developed for species or habitats located on the site;

Discussion: There are presently no federal, state, or local management recommendations for the types of habitats provided within the project site.

The City of Sumner has identified a special management recommendation for the Puyallup River within the City's Shoreline Management Regulations (16.14.040). These regulations require that permanent structures, storage, and hard surfaces shall be set back a minimum of 100 feet from the floodway or ordinary high water mark (whichever is further landward) within the "Shoreline Residential Environment."

3. A discussion of measures to preserve existing habitats and restore habitats which were degraded prior to the proposed land use activity.

Discussion: Since the development of the project site would not exhibit a significant impact on fish and wildlife habitat no measures to preserve existing habitats or restored habitats appear required.

4. A discussion of proposed measures which mitigate the impacts of the project;

Discussion: Since the development of the project site would not exhibit a significant impact on fish and wildlife habitat no measures to mitigate the impacts of this project appear required.

5. An evaluation of the effectiveness of the proposed mitigation and restoration measures;

Discussion: Since no measures to mitigate the impacts of this project appear required, no associated evaluation appears required.

6. A discussion of ongoing management practices which will protect fish and wildlife habitat after the project site has been fully developed, including proposed monitoring and maintenance programs;

Discussion: Since no measures to mitigate the impacts of this project appear required, no associated monitoring or maintenance appears required.

7. An assessment of habitat recommendations proposed by resource agencies and their applicability to the proposal; and

Discussion: Since no measures to mitigate the impacts of this project appear required, no further assessment appears required.

8. Any additional information necessary to determine the impacts of a proposal and mitigation of the impacts.

Discussion: No additional information appears necessary to determine the impacts of the development of this project site on existing onsite habitats. The project site is located more than 150 feet away from the Puyallup River and separated from the Puyallup River Corridor by existing residential development roadways.

SELECTED DEVELOPMENT ACTION

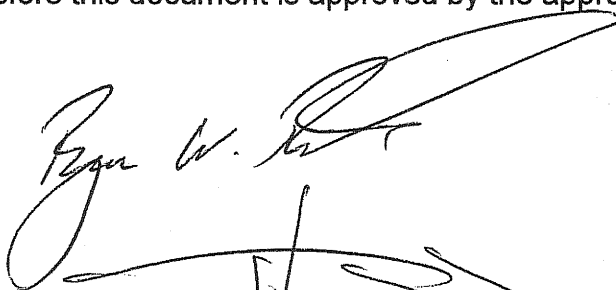
The Selected Development Action for the project site focuses on the development of a residential community consistent with the City of Sumner Comprehensive Plan, the City of Sumner Shoreline Regulations, and local zoning. The development of this residential community would not require an adverse impact to wetlands, streams, or critical habitats.

The project site has been managed and manipulated for the production of agricultural crops for several decades. As such, the project site provides only limited habitats for a limited number of wildlife species. In particular, the project site does not provide critical habitats for federally or state-listed endangered, threatened, or sensitive species of fish, wildlife, or plants.

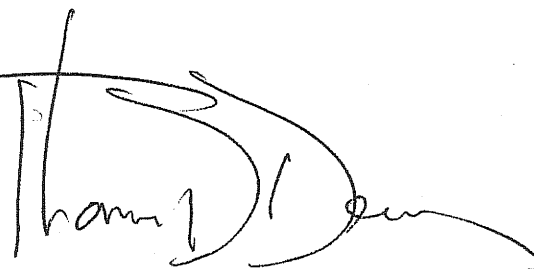
STANDARD OF CARE

This wetland and drainage corridor evaluation and delineation report has been completed by Habitat Technologies for use by Larson and Associates. Prior to extensive site planning, this document should be reviewed and the wetland and drainage corridor boundaries, wetland and drainage corridor classifications, wetland and drainage corridor ratings, and proposed protective buffers should be reviewed and verified by City of Sumner and potentially other resource and permitting agencies. Habitat Technologies has provided professional services that are in accordance with the degree of care and skill generally accepted in the nature of the work accomplished. No other warranties are expressed or implied. Habitat Technologies is not responsible for design costs incurred before this document is approved by the appropriate resource and permitting agencies.

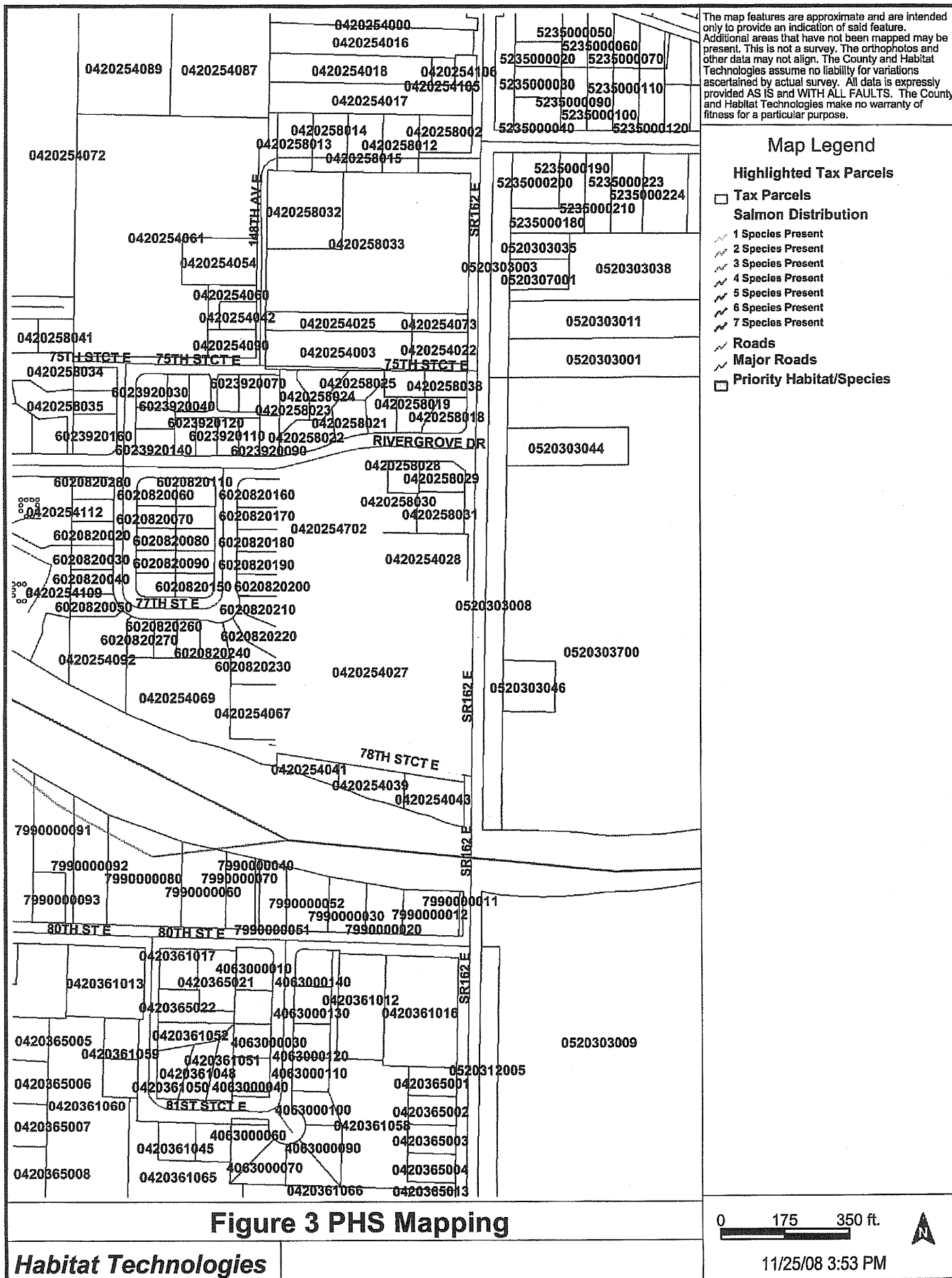
Bryan W. Peck
Wetland Biologist

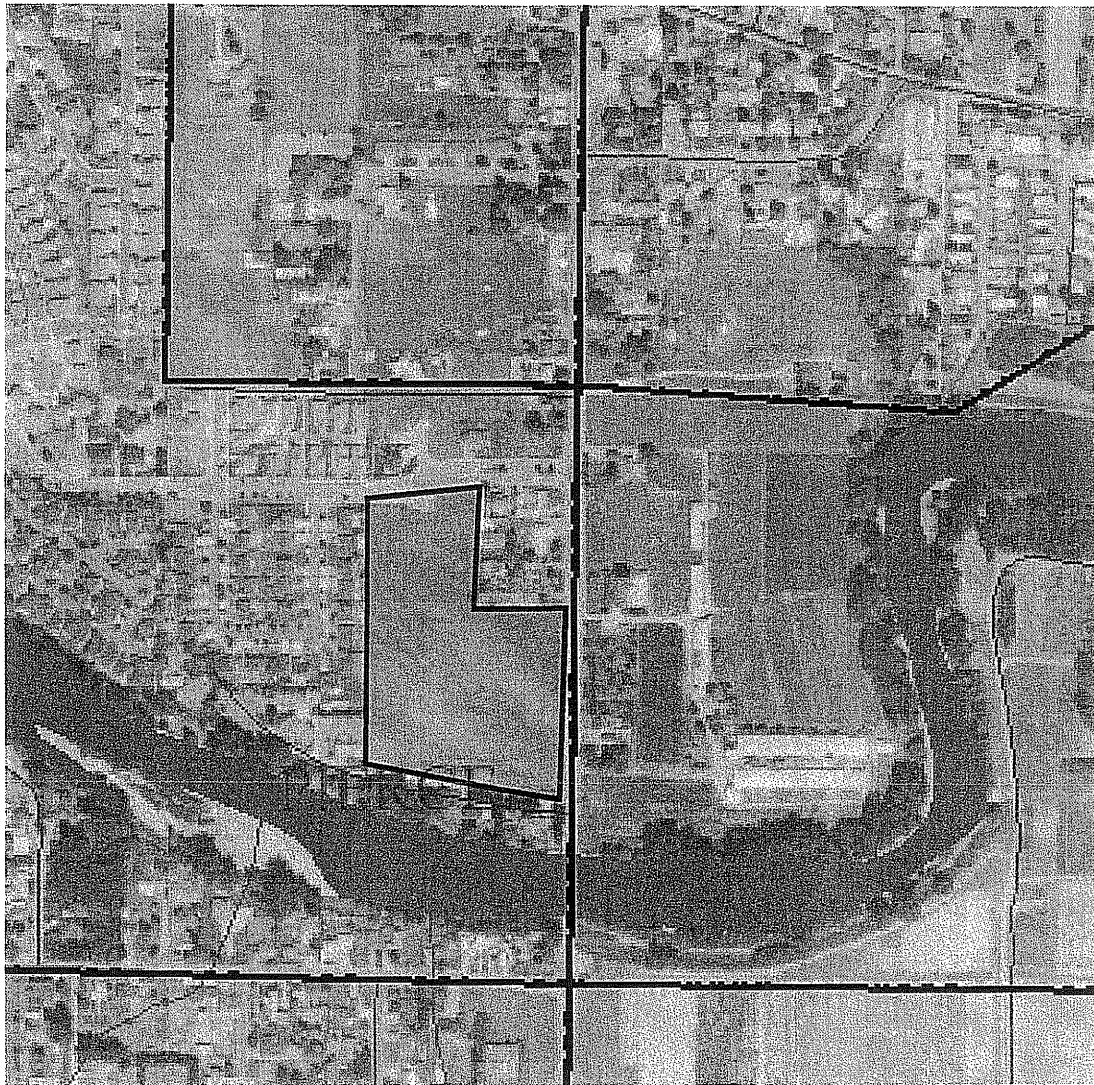
A handwritten signature in black ink, appearing to read "Bryan W. Peck", written over a horizontal line.

Thomas D. Deming
Certified Professional Wetland Scientist

A handwritten signature in black ink, appearing to read "Thomas D. Deming", written over a horizontal line.

FIGURES





- | | |
|------------------|-------------------------|
| □ PLSS Townships | ~ RIVERS (1:24,000) |
| ⋯ PLSS Sections | DNR Trans 24k |
| CITIES | ~ Paved Road |
| • Major Cities | ~ Unpaved Road |
| • Cities | ~ Road Surface Unknown |
| • Towns | ~ Trail |
| | ~ Railroad |
| | • Road Abandoned/Orphan |

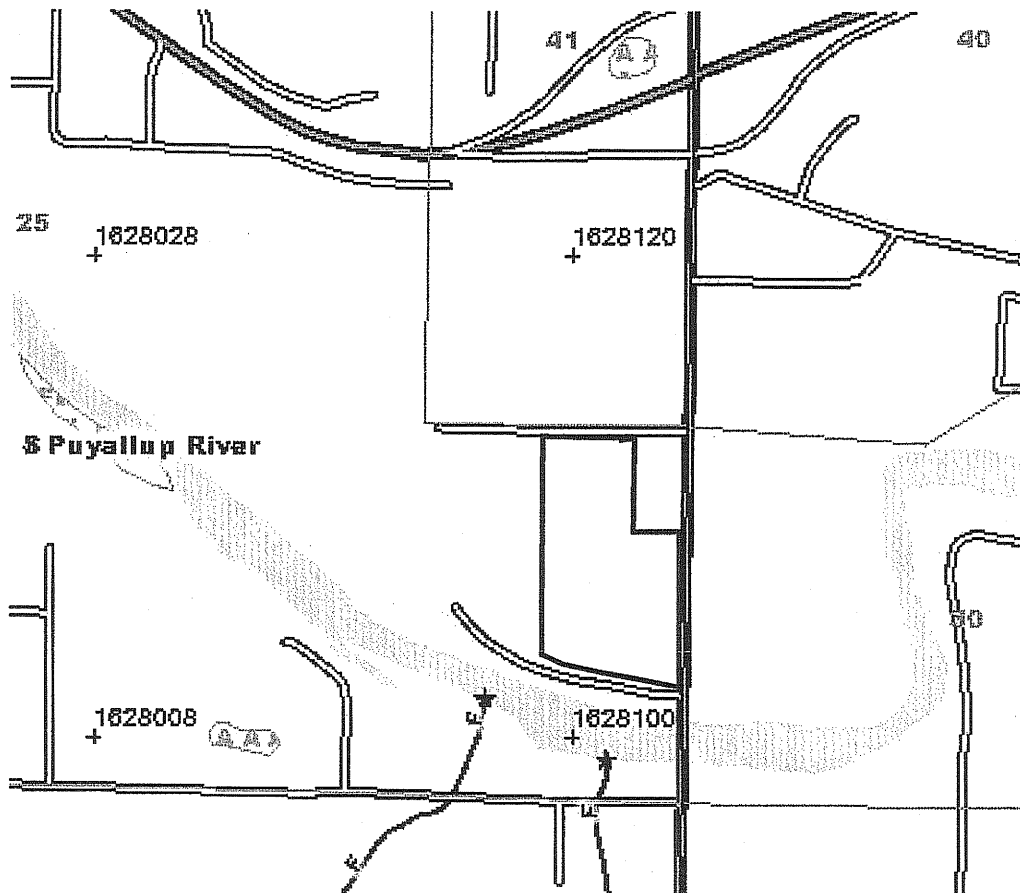


■ WATERBODIES
(1:24,000)

COUNTY

**HABITAT
TECHNOLOGIES**

**Figure 4
WDFW Mapping**



ELEVATION
Contours, 40' interval

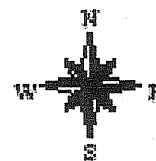
STREAMS
Stream Water Type S, F, N

U, unknown
X, non-typed per WAC 222-16
A, Water Type Change

TRANSPORTATION
Paved Road
Unpaved Road / Surface Unknown
Abandoned Road (not on Activity map)
Orphaned Road (not on Activity map)
Trail
Railroad

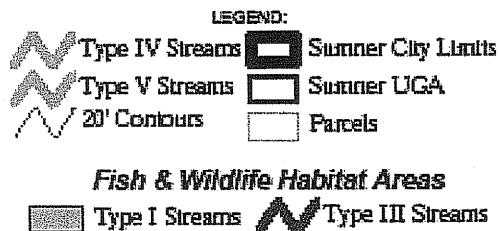
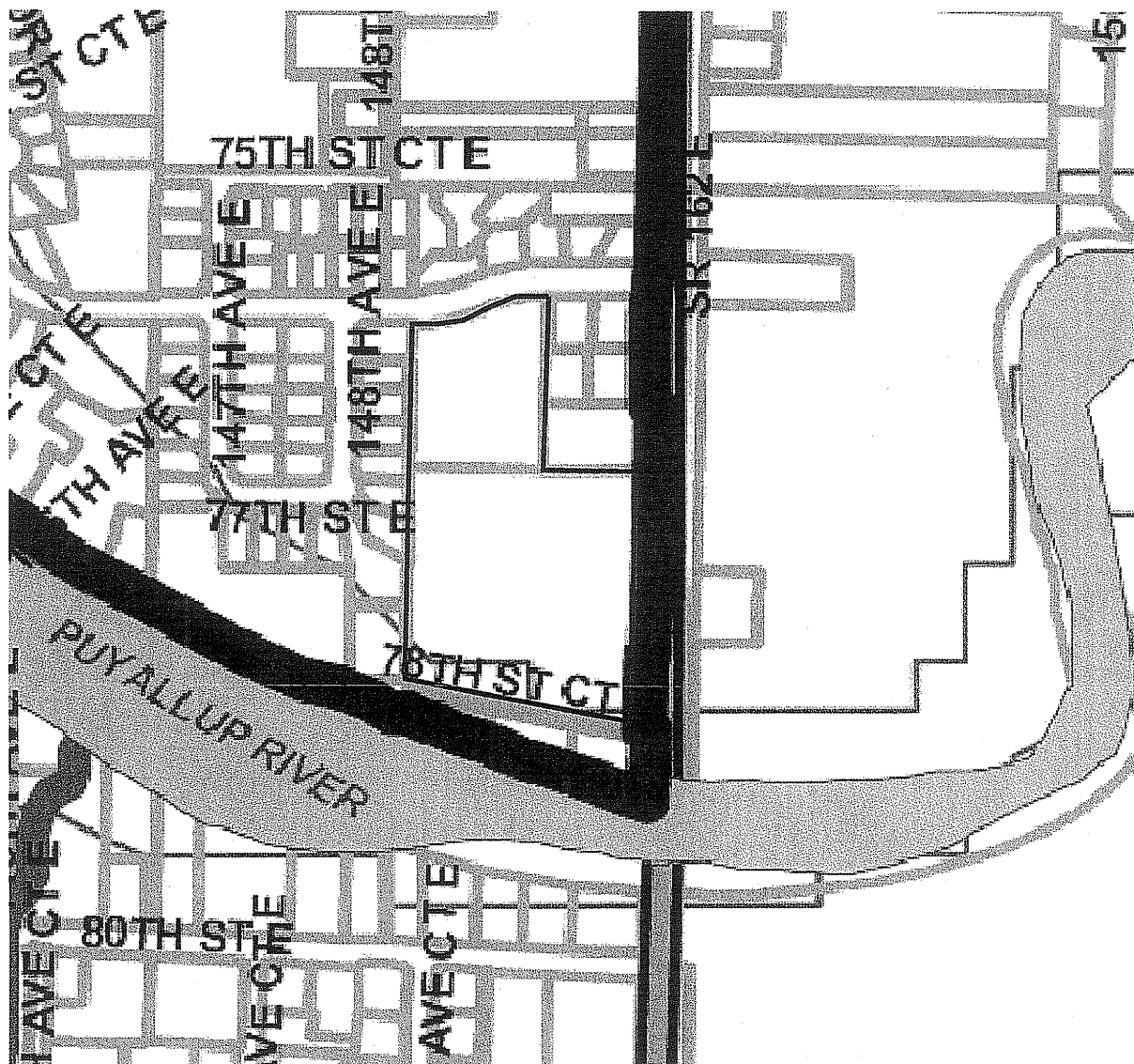
WATER BODIES
Open Water
Flats/Gravel Bars
Ice
Man Made Feature
Wet Area
Unknown/Unclassified

WETLANDS - Resource & Water Type Map only
Type A
Type B
Forested
other



**HABITAT
TECHNOLOGIES**

**Figure 5
WDR Mapping**



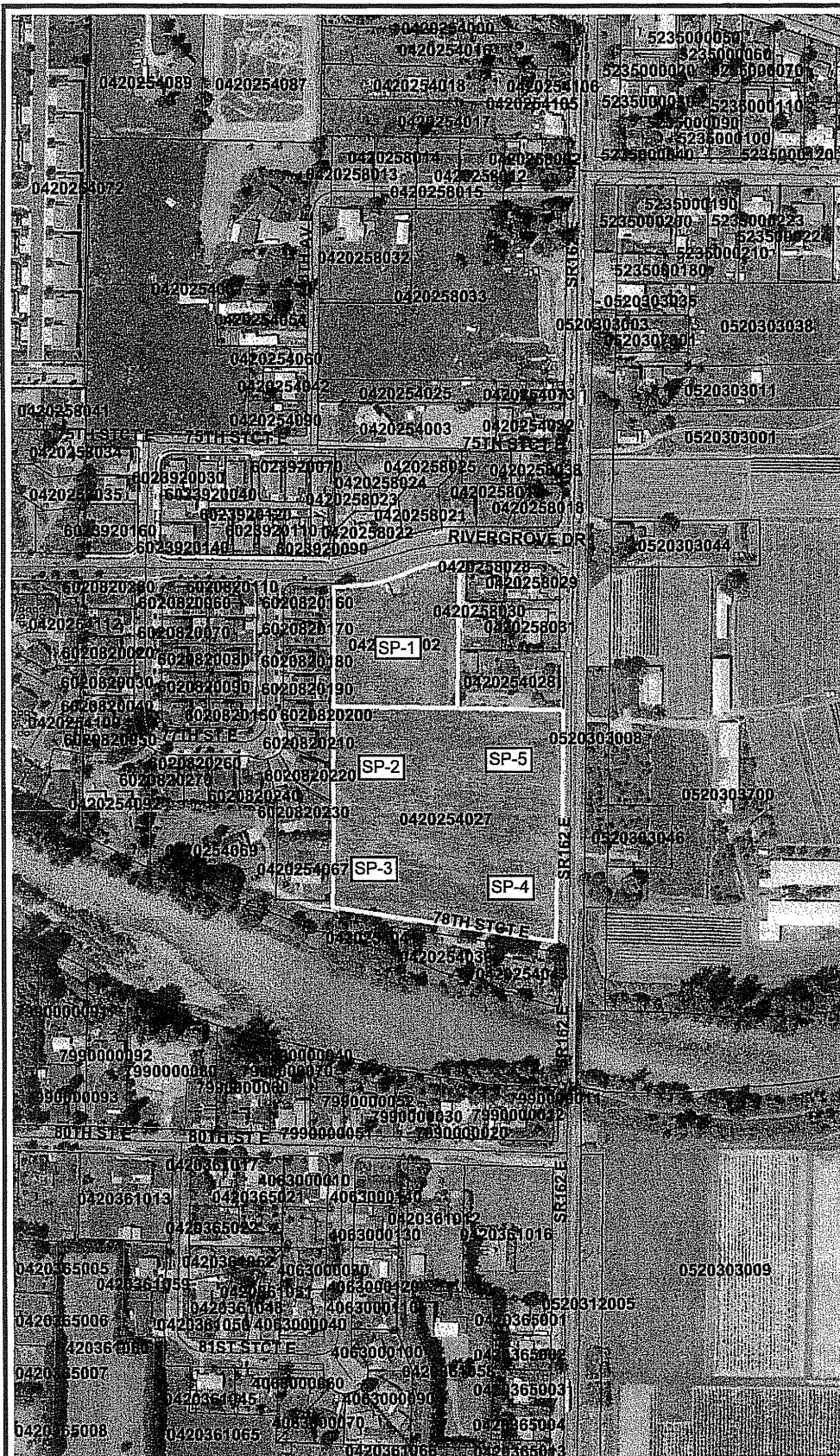
**HABITAT
TECHNOLOGIES**

Figure 6
City of Sumner Mapping

REFERENCE LIST

- Adamus, P.R., E.J. Clairain Jr., R.D. Smith, and R.E. Young. 1987. Wetland Evaluation Technique (WET); Volume II: Methodology, Operational Draft Technical Report Y-87, U.S. Army Engineer Waterways Experiment Station, Vicksburg, Mississippi.
- Cowardin, L.M., V. Carter, F.C. Golet, and E.T. LaRoe. 1979. Classification of Wetlands and Deepwater Habitats of the United States. Office of Biological Services, U.S. Fish and Wildlife Service, U.S. Department of the Interior, FWS/OBS-79/31.
- Environmental Laboratory. 1987. "Corps of Engineers Wetlands Delineation Manual," Technical Report Y-87-1, US Army Engineer Waterways Experiment Station, Vicksburg, Miss.
- Federal Interagency Committee for Wetland Delineation. 1989. Federal Manual for Identifying and Delineating Jurisdictional Wetlands. U.S. Army Corps of Engineers, U.S. Environmental Protection Agency, U.S. Fish and Wildlife Service, and U.S.D.A. Soil Conservation Service, Washington, D.C. Cooperative technical publication. 76 pp. plus appendices.
- Hitchcock, C.L., A. Cronquist. 1977. Flora of the Pacific Northwest. University of Washington Press. Seattle, Washington.
- Hruby, T. 2004. Washington State Wetland Rating System for Western Washington. Revised, Washington State Department of Ecology Publication #04-06-025.
- Reppert, R.T., W. Sigleo, E. Stakhiv, L. Messman, and C. Meyers. 1979. Wetland Values - Concepts and Methods for Wetland Evaluation. Research Report 79-R1, U.S. Army Corps of Engineers, Institute for Water Resources, Fort Belvoir, Virginia.
- U.S. Department of Agriculture, Soils Conservation Service. Soils Survey of Pierce County Area Washington, February 1979.
- Washington State Department of Ecology. 1997. Washington State Wetlands Identification and Delineation Manual. Publication Number 96-94
- Washington State Department of Fisheries, Catalog of Washington Streams and Salmon Utilization, Volume 1., 1975.

APPENDIX A - FIELD DATA FORMS



The map features are approximate and are intended only to provide an indication of said feature. Additional areas that have not been mapped may be present. This is not a survey. The orthophotos and other data may not align. The County and Habitat Technologies assume no liability for variations ascertained by actual survey. All data is expressly provided AS IS and WITH ALL FAULTS. The County and Habitat Technologies make no warranty of fitness for a particular purpose.

Map Legend

Highlighted Tax Parcels

- ☐ Tax Parcels
- Roads
- Major Roads
- County - 2005 - Ortho

Approximate Sample Plot Locations

Habitat Technologies

0 175 350 ft.



11/25/08 3:45 PM

SAMPLE PLOT SP 1

DATA FORM ROUTINE WETLAND DETERMINATION (1987 COE WETLANDS DELINEATION MANUAL)

Project Site	Parcels 0420254027 and 0420254702	Date:	18 NOV 08
Applicant/Owner:		County:	Pierce
Investigator:	Habitat Technologies	State:	Washington

Have vegetation, soils, or hydrology been disturbed? YES NO Community ID:
Is the area a potential Problem area? YES NO Transect ID:

VEGETATION (Note those species observed to have morphological adaptations to wetlands with an *)

Dominant Plant Species			Stratum	Indicator	Dominant Plant Species			Stratum	Indicator
1.	Taraxacum officinale		H	FACU	9.				
2.	Trifolium pratense		H	FACU	10.				
3.	Hypochaeris radicata		H	FACU	11.				
4.	Dactylis glomerata		H	FACU	12.				
5.	Poa spp.		H	---	13.				
6.					14.				
7.					15.				
8.					16.				

Percent of Dominant species that are OBL, FACW, or FAC (except FAC-). Include species noted (*) as showing morphological adaptations to wetlands	0%
Describe Morphological Adaptations:	
Remarks: Northern portion of project site	

HYDROLOGY

Recorded Data (Describe in Remarks):
 Stream, Lake, or Tide Gage
 Aerial Photograph
 Other
 No Recorded Data Available

Wetland Hydrology Indicators:

☐ Inundated
☐ Saturated in upper 12"
☐ Water Marks
☐ Drift Lines
☐ Sediment Deposits
☐ Drainage Patterns in Wetlands
☐ Oxidized Root Channels in Upper 12 "
☐ Water-Stained Leaves
☐ Local Soil Survey Data
☐ Other (Explain in Remarks)

FIELD OBSERVATIONS:

Depth of Surface Water: _____
 Depth to Free Water Pit: _____ **None**
 Depth to Saturated Soil: _____ **None**

Remarks: **Onsite assessment during fall 2008**

Soil appears to drain moderately well following seasonal storm events

SAMPLE PLOT SP 1

Map Unit Name: Sultan silt loam
Taxonomy (Subgroup)

Drainage Class: Moderately well

Field Observations

Confirm Mapped Type YES NO

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Rhizospheres, etc.
0-12		10YR 3/3	None		Sandy loam
12-18		10YR 4/2	None		Very sandy loam

Hydric Soil Indicators:

<input type="checkbox"/> Histosol	<input type="checkbox"/> Concretions
<input type="checkbox"/> Histic Epipedon	<input type="checkbox"/> High Organic Content in Surface Layer
<input type="checkbox"/> Sulfidic Odor	<input type="checkbox"/> Organic Streaking
<input type="checkbox"/> Probable Aquic Moisture Regime	<input type="checkbox"/> Listed on Local Hydric Soils List
<input type="checkbox"/> Reducing Conditions	<input type="checkbox"/> Listed on National Hydric Soils List
<input type="checkbox"/> Gleyed or Low Chroma Colors	<input type="checkbox"/> Other (Explain in Remarks)

Remarks:

Soil appears to drain moderately well following seasonal storm events

Prominent redoximorphic features NOT present

Field indicators of hydric soil NOT present.

WETLAND DETERMINATION

Hydrophytic Vegetation Present? YES NO

Hydric Soils Present? YES NO

Wetland Hydrology Present? YES NO

Is this Sampling Point within a Wetland? **NO**

Remarks:

WETLAND CRITERIA NOT MET

Northern portion of project site

Area appears to drain moderately well following seasonal storm events

No field evidence of wetland hydrology patterns

SAMPLE PLOT SP 2

DATA FORM ROUTINE WETLAND DETERMINATION (1987 COE WETLANDS DELINEATION MANUAL)

Project Site	Parcels 0420254027 and 0420254702	Date:	18 NOV 08
Applicant/Owner:		County:	Pierce
Investigator:	Habitat Technologies	State:	Washington

Have vegetation, soils, or hydrology been disturbed? YES NO Community ID:
 Is the area a potential Problem area? YES NO Transect ID:

VEGETATION (Note those species observed to have morphological adaptations to wetlands with an *)

Dominant Plant Species				Dominant Plant Species			
	Stratum	Indicator			Stratum	Indicator	
1.	Taraxacum officinale	H	FACU	9.			
2.	Trifolium pratense	H	FACU	10.			
3.	Hypochaeris radicata	H	FACU	11.			
4.	Equisetum arvense	H	FAC	12.			
5.	Dactylis glomerata	H	FACU	13.			
6.	Poa spp.	H	---	14.			
7.				15.			
8.				16.			

Percent of Dominant species that are OBL, FACW, or FAC (except FAC-). Include species noted (*) as showing morphological adaptations to wetlands	20%
Describe Morphological Adaptations:	
Remarks: Northern portion of project site	

HYDROLOGY

Recorded Data (Describe in Remarks):
 _____ Stream, Lake, or Tide Gage
 _____ Aerial Photograph
 _____ Other
 _____ No Recorded Data Available

Wetland Hydrology Indicators:
 _____ Inundated
 _____ Saturated in upper 12"
 _____ Water Marks
 _____ Drift Lines
 _____ Sediment Deposits
 _____ Drainage Patterns in Wetlands
 _____ Oxidized Root Channels in Upper 12 "
 _____ Water-Stained Leaves
 _____ Local Soil Survey Data
 _____ Other (Explain in Remarks)

FIELD OBSERVATIONS:

Depth of Surface Water: _____
 Depth to Free Water Pit: _____ **None**
 Depth to Saturated Soil: _____ **None**

Remarks: **Onsite assessment during fall 2008**

Soil appears to drain moderately well following seasonal storm events

SAMPLE PLOT SP 2

Map Unit Name: Sultan silt loam
Taxonomy (Subgroup)

Drainage Class: Moderately well

Field Observations

Confirm Mapped Type YES NO

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Rhizospheres, etc.
0-12		10YR 3/3	None		Sandy loam

Hydric Soil Indicators:

<input type="checkbox"/> Histosol	<input type="checkbox"/> Concretions
<input type="checkbox"/> Histic Epipedon	<input type="checkbox"/> High Organic Content in Surface Layer
<input type="checkbox"/> Sulfidic Odor	<input type="checkbox"/> Organic Streaking
<input type="checkbox"/> Probable Aquic Moisture Regime	<input type="checkbox"/> Listed on Local Hydric Soils List
<input type="checkbox"/> Reducing Conditions	<input type="checkbox"/> Listed on National Hydric Soils List
<input type="checkbox"/> Gleyed or Low Chroma Colors	<input type="checkbox"/> Other (Explain in Remarks)

Remarks:

Soil appears to drain moderately well following seasonal storm events

Prominent redoximorphic features NOT present

Field indicators of hydric soil NOT present.

WETLAND DETERMINATION

Hydrophytic Vegetation Present? YES NO

Hydric Soils Present? YES NO

Wetland Hydrology Present? YES NO

Is this Sampling Point within a Wetland?

NO

Remarks:

WETLAND CRITERIA NOT MET

Northern portion of project site

Area appears to drain moderately well following seasonal storm events

No field evidence of wetland hydrology patterns

SAMPLE PLOT SP 3

DATA FORM ROUTINE WETLAND DETERMINATION (1987 COE WETLANDS DELINEATION MANUAL)

Project Site	Parcels 0420254027 and 0420254702	Date:	18 NOV 08
Applicant/Owner:		County:	Pierce
Investigator:	Habitat Technologies	State:	Washington

Have vegetation, soils, or hydrology been disturbed? YES NO Community ID:
Is the area a potential Problem area? YES NO Transect ID:

VEGETATION (Note those species observed to have morphological adaptations to wetlands with an *)

Dominant Plant Species			Stratum	Indicator	Dominant Plant Species			Stratum	Indicator
1.	Taraxacum officinale		H	FACU	9.				
2.	Hypochaeris radicata		H	FACU	10.				
3.	Poa spp.		H	---	11.				
4.					12.				
5.					13.				
6.					14.				
7.					15.				
8.					16.				

Percent of Dominant species that are OBL, FACW, or FAC (except FAC-). Include species noted (*) as showing morphological adaptations to wetlands	0%
Describe Morphological Adaptations:	
Remarks: Southwestern portion of project site	

HYDROLOGY

Recorded Data (Describe in Remarks):
☐ Stream, Lake, or Tide Gage
☐ Aerial Photograph
☐ Other
☐ No Recorded Data Available

Wetland Hydrology Indicators:
☐ Inundated
☐ Saturated in upper 12"
☐ Water Marks
☐ Drift Lines
☐ Sediment Deposits
☐ Drainage Patterns in Wetlands
☐ Oxidized Root Channels in Upper 12 "
☐ Water-Stained Leaves
☐ Local Soil Survey Data
☐ Other (Explain in Remarks)

FIELD OBSERVATIONS:

Depth of Surface Water: _____
 Depth to Free Water Pit: _____ **None**
 Depth to Saturated Soil: _____ **None**

Remarks: Onsite assessment during fall 2008

Soil appears to drain moderately well following seasonal storm events

SAMPLE PLOT SP 3

Map Unit Name: Briscot loam
Taxonomy (Subgroup)

Drainage Class: Somewhat poorly

Field Observations

Confirm Mapped Type YES NO

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Rhizospheres, etc.
0-16		10YR 3/3	None		Sandy loam
16-22		10YR 4/2	None		Very sandy loam

Hydric Soil Indicators:

<input type="checkbox"/> Histosol	<input type="checkbox"/> Concretions
<input type="checkbox"/> Histic Epipedon	<input type="checkbox"/> High Organic Content in Surface Layer
<input type="checkbox"/> Sulfidic Odor	<input type="checkbox"/> Organic Streaking
<input type="checkbox"/> Probable Aquic Moisture Regime	<input type="checkbox"/> Listed on Local Hydric Soils List
<input type="checkbox"/> Reducing Conditions	<input type="checkbox"/> Listed on National Hydric Soils List
<input type="checkbox"/> Gleyed or Low Chroma Colors	<input type="checkbox"/> Other (Explain in Remarks)

Remarks:

Soil appears to drain moderately well following seasonal storm events

Prominent redoximorphic features NOT present

Field indicators of hydric soil NOT present.

WETLAND DETERMINATION

Hydrophytic Vegetation Present? YES NO

Hydric Soils Present? YES NO

Wetland Hydrology Present? YES NO

Is this Sampling Point within a Wetland? **NO**

Remarks:

WETLAND CRITERIA NOT MET

Southwestern portion of project site

Area appears to drain moderately well following seasonal storm events

No field evidence of wetland hydrology patterns

SAMPLE PLOT SP 4

DATA FORM ROUTINE WETLAND DETERMINATION (1987 COE WETLANDS DELINEATION MANUAL)

Project Site	Parcels 0420254027 and 0420254702	Date:	18 NOV 08
Applicant/Owner:		County:	Pierce
Investigator:	Habitat Technologies	State:	Washington

Have vegetation, soils, or hydrology been disturbed? YES NO Community ID:
Is the area a potential Problem area? YES NO Transect ID:

VEGETATION (Note those species observed to have morphological adaptations to wetlands with an *)

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. Taraxacum officinale	H	FACU	9.		
2. Hypochaeris radicata	H	FACU	10.		
3. Dactylis glomerata	H	FACU	11.		
4. Phalaris arundinacea	H	FACW	12.		
5. Poa spp.	H	---	13.		
6.			14.		
7.			15.		
8.			16.		

Percent of Dominant species that are OBL, FACW, or FAC (except FAC-). Include species noted (*) as showing morphological adaptations to wetlands	25%
Describe Morphological Adaptations:	
Remarks: Southeastern portion of project site	

HYDROLOGY

Recorded Data (Describe in Remarks):
☐ Stream, Lake, or Tide Gage
☐ Aerial Photograph
☐ Other
☐ No Recorded Data Available

Wetland Hydrology Indicators:
☐ Inundated
☐ Saturated in upper 12"
☐ Water Marks
☐ Drift Lines
☐ Sediment Deposits
☐ Drainage Patterns in Wetlands
☐ Oxidized Root Channels in Upper 12 "
☐ Water-Stained Leaves
☐ Local Soil Survey Data
☐ Other (Explain in Remarks)

FIELD OBSERVATIONS:

Depth of Surface Water: _____
 Depth to Free Water Pit: _____ **None**
 Depth to Saturated Soil: _____ **None**

Remarks: Onsite assessment during fall 2008

Soil appears to drain moderately well following seasonal storm events

SAMPLE PLOT SP 4

Map Unit Name: Puyallup fine sandy loam
Taxonomy (Subgroup)

Drainage Class: Well drained

Field Observations

Confirm Mapped Type YES NO

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Rhizospheres, etc.
0-18		10YR 3/2	None		Very Sandy loam

Hydric Soil Indicators:

<input type="checkbox"/> Histosol	<input type="checkbox"/> Concretions
<input type="checkbox"/> Histic Epipedon	<input type="checkbox"/> High Organic Content in Surface Layer
<input type="checkbox"/> Sulfidic Odor	<input type="checkbox"/> Organic Streaking
<input type="checkbox"/> Probable Aquic Moisture Regime	<input type="checkbox"/> Listed on Local Hydric Soils List
<input type="checkbox"/> Reducing Conditions	<input type="checkbox"/> Listed on National Hydric Soils List
<input type="checkbox"/> Gleyed or Low Chroma Colors	<input type="checkbox"/> Other (Explain in Remarks)

Remarks: :

Soil appears to drain moderately well following seasonal storm events

Prominent redoximorphic features NOT present

Field indicators of hydric soil NOT present.

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	YES	NO	
Hydric Soils Present?	YES	NO	
Wetland Hydrology Present?	YES	NO	Is this Sampling Point within a Wetland? NO

Remarks:

WETLAND CRITERIA NOT MET

Southwestern portion of project site

Area appears to drain moderately well following seasonal storm events

No field evidence of wetland hydrology patterns

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE WETLANDS DELINEATION MANUAL)

Project Site	Parcels 0420254027 and 0420254702	Date:	18 NOV 08
Applicant/Owner:		County:	Pierce
Investigator:	Habitat Technologies	State:	Washington

Have vegetation, soils, or hydrology been disturbed?

YES

NO

Community ID:

Is the area a potential Problem area?

YES

NO

Transect ID:

VEGETATION (Note those species observed to have morphological adaptations to wetlands with an *)

Dominant Plant Species			Stratum	Indicator	Dominant Plant Species			Stratum	Indicator
1.	Taraxacum officinale		H	FACU	9.				
2.	Hypochaeris radicata		H	FACU	10.				
3.	Dactylis glomerata		H	FACU	11.				
4.	Geranium molle		H	---	12.				
5.	Poa spp.		H	---	13.				
6.					14.				
7.					15.				
8.					16.				

Percent of Dominant species that are OBL, FACW, or FAC (except FAC-). Include species noted (*) as showing morphological adaptations to wetlands

0%

Describe Morphological Adaptations:

Remarks: **Eastern portion of project site****HYDROLOGY**

Recorded Data (Describe in Remarks):

Stream, Lake, or Tide Gage

Aerial Photograph

Other

No Recorded Data Available

Wetland Hydrology Indicators:

Inundated

Saturated in upper 12"

Water Marks

Drift Lines

Sediment Deposits

Drainage Patterns in Wetlands

Oxidized Root Channels in Upper 12 "

Water-Stained Leaves

Local Soil Survey Data

Other (Explain in Remarks)

FIELD OBSERVATIONS:

Depth of Surface Water:

Depth to Free Water Pit: **None**Depth to Saturated Soil: **None**Remarks: **Onsite assessment during fall 2008****Soil appears to drain moderately well following seasonal storm events**

SAMPLE PLOT SP 5

Map Unit Name: Briscot loam
Taxonomy (Subgroup)

Drainage Class: Somewhat poorly

Field Observations

Confirm Mapped Type YES NO

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Rhizospheres, etc.
0-16		10YR 3/2	None		Sandy loam
16-22		10YR 4/2	None		Very Sandy loam

Hydric Soil Indicators:

<input type="checkbox"/> Histosol	<input type="checkbox"/> Concretions
<input type="checkbox"/> Histic Epipedon	<input type="checkbox"/> High Organic Content in Surface Layer
<input type="checkbox"/> Sulfidic Odor	<input type="checkbox"/> Organic Streaking
<input type="checkbox"/> Probable Aquic Moisture Regime	<input type="checkbox"/> Listed on Local Hydric Soils List
<input type="checkbox"/> Reducing Conditions	<input type="checkbox"/> Listed on National Hydric Soils List
<input type="checkbox"/> Gleyed or Low Chroma Colors	<input type="checkbox"/> Other (Explain in Remarks)

Remarks: :

Soil appears to drain moderately well following seasonal storm events

Prominent redoximorphic features NOT present

Field indicators of hydric soil NOT present.

WETLAND DETERMINATION

Hydrophytic Vegetation Present? YES NO

Hydric Soils Present? YES NO

Wetland Hydrology Present? YES NO

Is this Sampling Point within a Wetland? **NO**

Remarks:

WETLAND CRITERIA NOT MET

Eastern portion of project site

Area appears to drain moderately well following seasonal storm events

No field evidence of wetland hydrology patterns

ATTACHMENT – SITE PLAN

APPENDIX B – 2013 FIELD DATA

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Parcels 0420254702 and -4027 City/County: Sumner, Pierce Sampling Date: 14 MAR 2013
 Applicant/Owner: _____ State: WA Sampling Point: SP-1
 Investigator(s): Habitat Technologies Section, Township, Range: S25, T20, R4E
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): _____
 Subregion (LRR): A Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: Sultan silt loam NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Remarks: Northern portion of project site.	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 15ft radius)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)																
1. _____	_____	_____	_____																	
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
0 = Total Cover				Prevalence Index worksheet: <table border="0"> <tr> <td>Total % Cover of:</td> <td>Multiply by:</td> </tr> <tr> <td>OBL species _____</td> <td>x 1 = _____</td> </tr> <tr> <td>FACW species _____</td> <td>x 2 = _____</td> </tr> <tr> <td>FAC species _____</td> <td>x 3 = _____</td> </tr> <tr> <td>FACU species _____</td> <td>x 4 = _____</td> </tr> <tr> <td>UPL species _____</td> <td>x 5 = _____</td> </tr> <tr> <td>Column Totals: _____</td> <td>(A) _____ (B) _____</td> </tr> <tr> <td colspan="2">Prevalence Index = B/A = _____</td> </tr> </table>	Total % Cover of:	Multiply by:	OBL species _____	x 1 = _____	FACW species _____	x 2 = _____	FAC species _____	x 3 = _____	FACU species _____	x 4 = _____	UPL species _____	x 5 = _____	Column Totals: _____	(A) _____ (B) _____	Prevalence Index = B/A = _____	
Total % Cover of:	Multiply by:																			
OBL species _____	x 1 = _____																			
FACW species _____	x 2 = _____																			
FAC species _____	x 3 = _____																			
FACU species _____	x 4 = _____																			
UPL species _____	x 5 = _____																			
Column Totals: _____	(A) _____ (B) _____																			
Prevalence Index = B/A = _____																				
Sapling/Shrub Stratum (Plot size: 15ft radius) 1. _____ 2. _____ 3. _____ 4. _____ 5. _____ 0 = Total Cover																				
Herb Stratum (Plot size: 15ft radius) 1. <u>Dactylis glomerata</u> 25 yes FACU 2. <u>Festuca arundinacea</u> 15 FAC 3. <u>Taraxacum officinale</u> 20 yes FACU 4. <u>Trifolium spp.</u> 30 5. <u>Geranium molle</u> 10 6. _____ 7. _____ 8. _____ 9. _____ 10. _____ 11. _____ _____ = Total Cover																				
Woody Vine Stratum (Plot size: 15ft radius) 1. _____ 2. _____ 0 = Total Cover																				
% Bare Ground in Herb Stratum _____ 0 = Total Cover																				
Hydrophytic Vegetation Indicators: <input type="checkbox"/> Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> Dominance Test is >50% <input type="checkbox"/> Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Wetland Non-Vascular Plants ¹ <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																				
Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>																				
Remarks:																				

SOIL

Sampling Point: SP-1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features			Loc ²	Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹			
0-18	10YR 3/3							

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) <input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Redox Depressions (F8)	Indicators for Problematic Hydric Soils³: <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Red Parent Material (TF2) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (Explain in Remarks)
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³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present): Type: _____ Depth (inches): _____	Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
--	---

Remarks: _____

HYDROLOGY

Wetland Hydrology Indicators:			
Primary Indicators (minimum of one required; check all that apply)		Secondary Indicators (2 or more required)	
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) <input type="checkbox"/> Salt Crust (B11) <input type="checkbox"/> Aquatic Invertebrates (B13) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A) <input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Raised Ant Mounds (D6) (LRR A) <input type="checkbox"/> Frost-Heave Hummocks (D7)	

Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
---	---

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: _____

Remarks: _____

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Parcels 0420254702 and -4027 City/County: Sumner, Pierce Sampling Date: 14 MAR 2013
 Applicant/Owner: _____ State: WA Sampling Point: SP-2
 Investigator(s): Habitat Technologies Section, Township, Range: S25, T20, R4E
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): _____
 Subregion (LRR): A Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: Briscot loam NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Remarks: Central western portion of the project site. Plowed and tilled.	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 15ft radius)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>0</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
			<u>0</u> = Total Cover	Prevalence Index worksheet: Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot size: 15ft radius)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
			<u>0</u> = Total Cover	
Herb Stratum (Plot size: 15ft radius)				
1. <u>Festuca arundinacea</u>	<u>10</u>	_____	<u>FAC</u>	
2. <u>Mentha arvensis</u>	<u>5</u>	_____	<u>FACW</u>	
3. <u>Cirsium vulgare</u>	<u>5</u>	_____	<u>FACU</u>	
4. <u>Vicia americana</u>	<u>5</u>	_____	<u>FAC</u>	
5. <u>Geranium molle</u>	<u>10</u>	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
			<u>35</u> = Total Cover	
Woody Vine Stratum (Plot size: 15ft radius)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
			<u>0</u> = Total Cover	
% Bare Ground in Herb Stratum <u>65</u>				

Remarks:

SOIL

Sampling Point: SP-2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features			Loc ²	Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹			
0-16	10YR 3/3	100						
16-24	10YR 4/2	98	10YR 3/4	2	CS	M	fs	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) <input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)	Indicators for Problematic Hydric Soils³: <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Red Parent Material (TF2) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (Explain in Remarks)
--	---	---

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present): Type: _____ Depth (inches): _____	Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
--	---

Remarks:

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply)			Secondary Indicators (2 or more required)		
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) <input type="checkbox"/> Salt Crust (B11) <input type="checkbox"/> Aquatic Invertebrates (B13) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A) <input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Raised Ant Mounds (D6) (LRR A) <input type="checkbox"/> Frost-Heave Hummocks (D7)			

Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Parcels 0420254702 and -4027 City/County: Sumner, Pierce Sampling Date: 14 MAR 2013
 Applicant/Owner: _____ State: WA Sampling Point: SP-3
 Investigator(s): Habitat Technologies Section, Township, Range: S25, T20, R4E
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): _____
 Subregion (LRR): A Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: Puyallup fine sandy loam NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Remarks: Southwestern portion of the project site. Plowed and tilled.	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 15ft radius)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>0</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
			<u>0</u> = Total Cover	Prevalence Index worksheet: Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot size: 15ft radius)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
			<u>0</u> = Total Cover	
Herb Stratum (Plot size: 15ft radius)				Hydrophytic Vegetation Indicators: <input type="checkbox"/> Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> Dominance Test is >50% <input type="checkbox"/> Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Wetland Non-Vascular Plants ¹ <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <u>Festuca arundinacea</u>	<u>10</u>		<u>FAC</u>	
2. <u>Mentha arvensis</u>	<u>5</u>		<u>FACW</u>	
3. <u>Cirsium vulgare</u>	<u>5</u>		<u>FACU</u>	
4. <u>Vicia americana</u>	<u>5</u>		<u>FAC</u>	
5. <u>Geranium molle</u>	<u>10</u>		<u>—</u>	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
			<u>35</u> = Total Cover	
Woody Vine Stratum (Plot size: 15ft radius)				Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
			<u>0</u> = Total Cover	
% Bare Ground in Herb Stratum <u>65</u>				
Remarks: _____				

SOIL

Sampling Point: SP-3

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features			Loc ²	Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹			
0-16	10YR 3/2	100					I	
16-24	10YR 3/3	98	10YR 4/4	2	CS	M	fs	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

<input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)	Indicators for Problematic Hydric Soils³: <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Red Parent Material (TF2) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (Explain in Remarks)
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³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present): Type: _____ Depth (inches): _____	Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
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Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	Secondary Indicators (2 or more required) <input type="checkbox"/> Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) <input type="checkbox"/> Salt Crust (B11) <input type="checkbox"/> Aquatic Invertebrates (B13) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A) <input type="checkbox"/> Other (Explain in Remarks)
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Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Parcels 0420254702 and -4027 City/County: Sumner, Pierce Sampling Date: 14 MAR 2013
 Applicant/Owner: _____ State: WA Sampling Point: SP-4
 Investigator(s): Habitat Technologies Section, Township, Range: S25, T20, R4E
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): _____
 Subregion (LRR): A Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: Briscol loam NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Remarks: Southeastern portion of the project site. Plowed and tilled.	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 15ft radius)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>0</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
0 _____ = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot size: 15ft radius)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
0 _____ = Total Cover				
Herb Stratum (Plot size: 15ft radius)				Hydrophytic Vegetation Indicators: <input type="checkbox"/> Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> Dominance Test is >50% <input type="checkbox"/> Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Wetland Non-Vascular Plants ¹ <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <u>Geranium molle</u>	<u>20</u>	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
20 _____ = Total Cover				
Woody Vine Stratum (Plot size: 15ft radius)				Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
0 _____ = Total Cover				
% Bare Ground in Herb Stratum <u>80</u>				
Remarks:				

SOIL

Sampling Point: SP-4

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features			Loc ²	Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹			
0-17	10YR 3/3	100						
17-24	10YR 4/2	90	10YR 4/4	10	CS	M	fs	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> Sandy Gleyed Matrix (S4)	Indicators for Problematic Hydric Soils³: <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Red Parent Material (TF2) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (Explain in Remarks)
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Restrictive Layer (if present): Type: _____ Depth (inches): _____	Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
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Remarks: _____

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one required; check all that apply)</u>		<u>Secondary Indicators (2 or more required)</u>
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) <input type="checkbox"/> Salt Crust (B11) <input type="checkbox"/> Aquatic Invertebrates (B13) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A) <input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Raised Ant Mounds (D6) (LRR A) <input type="checkbox"/> Frost-Heave Hummocks (D7)

Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
---	---

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: _____

Remarks: _____

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Parcels 0420254702 and -4027 City/County: Sumner, Pierce Sampling Date: 14 MAR 2013
 Applicant/Owner: _____ State: WA Sampling Point: SP-5
 Investigator(s): Habitat Technologies Section, Township, Range: S25, T20, R4E
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): _____
 Subregion (LRR): A Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: Brisco loam NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Remarks: <u>Northeastern portion of the project site. Plowed and tilled.</u>	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 15ft radius)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>0</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
0 _____ = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot size: 15ft radius)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
0 _____ = Total Cover				
Herb Stratum (Plot size: 15ft radius)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
_____ = Total Cover				
Woody Vine Stratum (Plot size: 15ft radius)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
0 _____ = Total Cover				
% Bare Ground in Herb Stratum <u>100</u>				
Remarks: <u>Bare ground.</u>				

SOIL

Sampling Point: SP-5

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features			Loc ²	Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹			
0-17	10YR 3/3	100					I	
17-24	10YR 4/2	90	10YR 4/4	10	CS	M	fs	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) <input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)	Indicators for Problematic Hydric Soils³: <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Red Parent Material (TF2) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (Explain in Remarks) ³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
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Restrictive Layer (if present): Type: _____ Depth (inches): _____	Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
--	---

Remarks: _____

HYDROLOGY

Wetland Hydrology Indicators:			
Primary Indicators (minimum of one required; check all that apply)		Secondary Indicators (2 or more required)	
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) <input type="checkbox"/> Salt Crust (B11) <input type="checkbox"/> Aquatic Invertebrates (B13) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A) <input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Raised Ant Mounds (D6) (LRR A) <input type="checkbox"/> Frost-Heave Hummocks (D7)	
Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)		Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:			
Remarks: _____			

PHOTOS



General south to north view of the project site. The project site has been actively managed for agricultural production for several decades. March 2013.



Typical soil sample plot. The soil is moderately to well drained and does not exhibit prominent hydric field indicators. March 2013.